AT-DC2552XS

HIGH PERFORMANCE, LOW LATENCY TOP-OF-RACK DATA CENTER SWITCH

2002/95/EC RoHS COMPLIANT

Designed for virtualized data center and cloud environments, the Allied Telesis AT-DC2552XS switch provides high density 10GbE and 40GbE connectivity, making it ideal for today's big data, cloud and optimized workloads.

This data center switch has been designed with green functionality in mind, resulting in lower power consumption per port, which results in a lower Total Cost of Ownership.

The AT-DC2552XS is a 48 x 10GbE (SFP+) port high-bandwidth and high density switch designed for data center applications. It also provides four QSFP+ 40GbE slots for "fat-pipe" high bandwidth uplinks. This switch delivers 1280Gbps of switching fabric with ultra low sub-µsec latency. Airflow has been optimized for front-to-back cooling for data center environments. The unit can also accommodate a 1+1 resilient power supply, all of this in a very compact 1RU unit chassis.

A smarter data center with improved economics of IT can be achieved by connecting servers and storage facilities with a high-speed and low latency network fabric that is smarter, faster, greener, open and easy to manage.

Advanced Energy Efficiency

The AT-DC2552XS provides more than just speeds and feeds. Energy efficient architecture and front-to-back air-flow cooling of the AT-DC2552XS are critical factors in optimizing data center economics—as companies need to balance performance with power consumption to meet energy budgets.

High-bandwidth

As bandwidth-intensive applications such as Web 2.0, virtualization, High-Performance Computing (HPC) and Network Attached Storage (NAS) continue to proliferate within enterprise data centers, 10 Gigabit Ethernet (10GbE) provides a cost effective way to increase throughput and seamlessly deliver customer service level agreements.

Future Proofing

10GbE empowers companies to expand application capabilities, reduce time to solve complex financial and scientific applications, and quickly respond to changing customer needs and market conditions.

In combination with the AT-VNC10S Network Interface Cards for servers, it helps clients to reduce the of I/O adapters, reducing costs and complexity.

High Availability

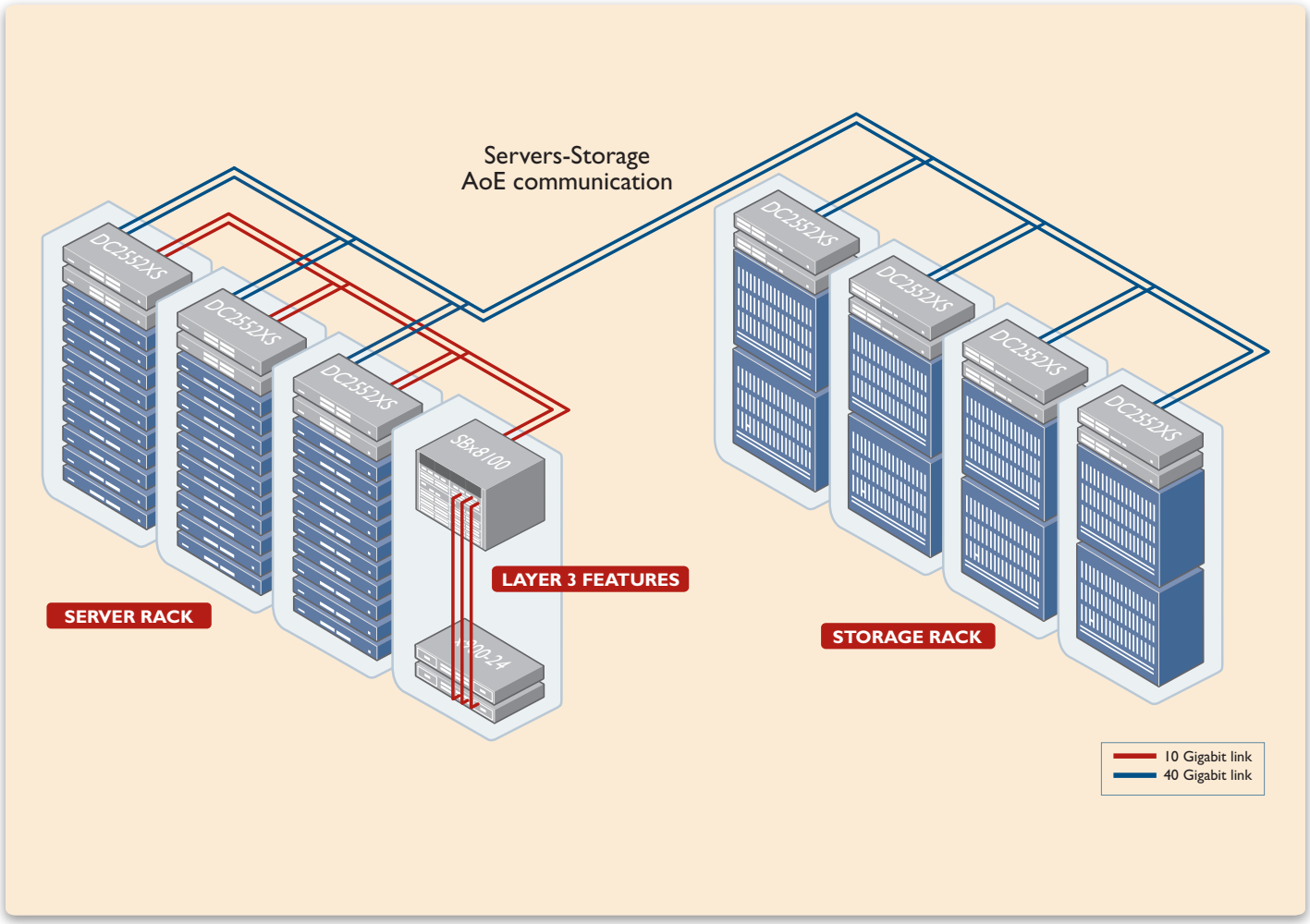
The AT-DC2552XS has two slots for hot-swappable PSU's (Power Supply Unit) and FANs. Also SFP+ and QSFP modules can be easily removed and replaced with no interruption to the network. These hot-swappable modules guarantee the continued delivery of essential services.

Cut-through

Cut-through switching sends the packet to the destination as soon as the first packet is ready. The delay is minimal and the packet reaches its destination in the shortest possible time. With cut-through mode, the AT-DC2552XS forwards packets with a latency of 505 nanoseconds with 40Gb / 800 nanoseconds with 10Gb and is ideal use for inter-server communication.

Air Flow

Cooling air flow has become a major design concern in modern data centers. The AT-DC2552XS utilizes front (PSU/ and FAN side) to back (ports side) airflow which is suitable for rack mounting in data centers.



Specifications

Port

» Switch port
SFP+ slot x 48 ports
QSFP+ slot x 4

» Console port
RS-232 (USB connector) x 1

» Management port
10/100/1000T (RJ-45 connector) x 1
Auto negotition, MDI-MDI-X

System

» Forwarding rate 952.38Mpps

» Switching capacity 1280Gbps

» 128K MAC addresses

» Cut-through mode Latency 40GB:505ns (64byte)
10GB:800ns (64byte)

» 2GB RAM

» 128MB flash memory

» 1.3Ghz CPU

» 9MB packet buffer

» Maximum jumbo frames 12K bytes

» 32 link aggregation group / 8 members per group

Wire-speed switching on all Ethernet ports

» 14,880,000pps for 10Gbps Ethernet

» 59,523,800pps for 40Gbps Ethernet

Environmental Specifications

» Operating temperature 0ºC to 40ºC

» Storage temperature -20ºC to 60ºC

» Operating humidity 10% to 80% (non-condensing

» Storage humidity 5% to 90% (non-condensing)

Port Configuration

» Auto-negotiation, duplex, MDI/MDI-X, IEEE 802.3x flow control

» Packet storm protection

» Port mirroring

» Broadcast storm control

» Ethernet statistics

» Egress-rate-limit

» LinkTrap

Ethernet Specifications

» IEEE 802.3 10T*

» IEEE 802.3u 100TX*

» IEEE 802.3ab 1000T*

» IEEE 802.3ae 10GBASE-SR, 10GBASE-LR

» IEEE 802.3ba 10GBASE-SR4/XLPPI,40GBASE-CR4

» IEEE 802.1Q Virtual LANs

» IEEE 802.3ad (LACP) Link aggregation

» IEEE 802.3z Gigabit Ethernet

*Only for management port use

Quality of Service (QoS)

» Head-of-line blocking prevention

» Eight egress queues per port

» IEEE 802.1p Class of Service with strict and weighted round robin scheduling/strict priority scheduling

» Access Control Lists (ACLs)

Spanning-Tree Protocol

» IEEE 802.1D Spanning-Tree Protocol

» IEEE 802.1w Rapid Spanning-Tree

» IEEE 802.1s Multiple Spanning-Tree

Management

» Enviromental monitoring
» DHCP client
» RFC 1350 TFTP client
» NTP
» Zmodem
» HTTP
» TFTP
» RFC 1157 SNMPv1
» RFC 1901 SNMPv2c
» RFC 2571-5 SNMPv3
» RFC 1757 RMON group 1, 3, 9
» Syslog client support
» Event log
» Telnet
» SSHv2

MIB Support

» RFC 1643 Ethernet-like MIB
» Allied Telesis private MIB
» RFC 1757 RMON MIB
» RFC 1493 Bridge MIB
» RFC 1573/2863 Interfaces group MIB
» RFC 1213 MIB-II
» RFC 1215 TRAP MIB
» RFC 3635 Ethernet MIB

VLAN

» 4094 VLANs
» MAC based VLANs – 1K
» Port-based VLANs
» IEEE 802.1Q tag-based VLANs

Link Aggregation

» Static trunking
» IEEE 802.3ad LACP
» IP option
» Dynamic LACP
» Port trunking

IP Multicasting

» RFC 1112 IGMPv1 snooping
» RFC 2236 IGMPv2 snooping
» RFC 3376 IGMPv3 snooping
» Multicast groups - 255

Security

» Hardware packet filtering
» Layer 2/3/4/ Access Control Lists (ACLs)
» 512 ACL profiles
» 256 rules per ACL profile
» ACLs based on:
- ICMP
- IP
- MAC address
- IP protocol
- TCP
- UDP
» DoS attack protection
- Smurf
- SYN flood
- Teardrop
- Land
- IP option
- Ping attack

Compliance Standards

» IEEE 802.3 – 10T
» IEEE 802.3u – 100TX with auto-negotiation
» IEEE 802.3ab – 1000T Gigabit Ethernet
» IEEE 802.3ae, 10G SFP+ - SFP+ fiber, SFP+ direct attach
» IEEE 802.3ba - QSFP+

Safety and Electromagnetic Emissions Certifications

» EMI: FCC class A, CISPR class A, EN55022 class A
» C-TICK, VCCI Class A, CE
» Immunity: EN50024, EN601000-3-3, EN601000-3-2
» Safety: UL 60950-1 (cUlus), EN60950-1 (TUV)

Physical Specifications

Compliant with European RoHS standards

Package Specifications

» AT-DC2552XX switch with two PSU bay cover and two FAN unit bay covers
» Management cable (RS-232 to USB)
» Rubber feet and 19" rack-mountable hardware kit accessories
» Install Guide and CLI users guide available at alliedtelesis.com

Physical Specifications

Dimensions (W x D x H)	44.1cm x 46cm x 4.4cm 17.4in x 18.1in x 1.7in
Weight	8.3kg /18.3lb (chassis only) 11.3kg/24.9lb (chassis with two fans and two PSUs)

Quality and Reliability

» MTBF (Switch + 2 PSU): 180,000
» MTTF (FAN): 2470 hrs (40ºC)
5000 hrs (30ºC)
6970 hrs (25ºC)

Power Characteristics

» Voltage: 100-240V AC (10% auto-ranging)
» Frequency: 50/60 Hz
» Maximum current: 14A @ 100V
» Heat dissipation: 900 BTU/hr

Power Consumption

» 250W (max 280W)

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Ordering Information

AT-DC2552XS
48 port SFP+ slot
4 port QSFP slot
1 port console port
1 port management port
2 slots for PWR
2 slots for FAN

AT-PWR06-xx
Hot-swappable AC power supply

AT-FAN06
Hot-swappable FAN
(Two FANs are needed to operate reverse cooling airflow - port side to PSU/FAN side - is not supported)

QSFP+ and Cable

AT-QSFP1CU
QSFP+copper cable 1m

AT-QSFP3CU
QSFP+ copper cable 3m

AT-QSFPSR
QSFP+ module

Optical Cables

AT-MTP12-1
MTHTP cable for AT-QSFPSR, 1m

AT-MTP12-5
MTHTP cable for AT-QSFPSR, 5m

Where xx =
10 for US power cord
30 for UK power cord
40 for Australian power cord
50 for European power cord

SFP+ Modules

AT-SP10SR
10GBASE-SR

AT-SP10LR
10GBASE-LR

AT-SP10TW1
10GBASE SFP+ direct attach cable (1m)

AT-SP10TW3
10GBASE SFP+ direct attach cable (3m)

AT-SP10TW7
10GBASE SFP+ direct attach cable (7m)

North America Headquarters | 19800 North Creek Parkway | Suite 100 | Bothell | WA 98011 | USA | T: +1 800 424 4284 | F: +1 425 481 3895
Asia-Pacific Headquarters | 11 Tai Seng Link | Singapore | 534182 | T: +65 6383 3832 | F: +65 6383 3830
EMEA & CSA Operations | Antareslaan 18 | 2132 JE Hoofddorp | Netherlands | T: +31 23 5656800 | F: +31 23 5575466

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